

REMARKS

These amendments and remarks are filed in response to the final Office Action mailed April 16, 2010. For the following reasons, this amendment should be entered, the application allowed and the case passed to issue. No new matter or considerations are introduced by this amendment and this amendment clearly places the application in condition for allowance. Claim 6 is amended to adjust the spacing between two words. Even if this amendment is deemed not to place the application in condition for allowance by the Office, it should still be entered as it reduces the issues for appeal.

Claims 6-9 are pending in this application. Claims 1-17 were rejected. Claim 6 is amended. Claims 1-5 and 10-17 are canceled in this response.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 2, 6, 7, 9, 11, and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Mathias et al. (US 6,376,111) in view of Busenbender (US 2003/0039870) and Suzuki et al. (US 2001/0010872). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the present invention, as claimed, and the cited prior art.

Mathias, Busenbender, and Suzuki et al., whether taken alone, or in combination, do not suggest that the target humidity is set to be higher when the wet condition of the fuel cells is drier than a predetermined wet region than when the wet condition of the fuel cell is wetter than the predetermined region, as required by claim 6.

According to the Office Action, Mathias teaches humidity control and Busenbender discloses the necessity of humidity control during a period when the fuel cell power plant is not operative. Suzuki et al. teaches a control system which directs dry air to remove residual

moisture directly to the fuel cell, and thereby changing the humidity level in a fuel cell system to prevent freezing.

The Office Action concluded that it would have been obvious to one of ordinary skill in the art at the time the invention to use controlled modification of the humidity level to a target humidity within Mathias and Busenbender's fuel cell anode or cathode, because Suzuki teaches changing the humidity level in a fuel cell system allows for the prevention of freezing.

It should be noted, however, that an object of the present invention is to prevent ice from blocking the gas supply in a fuel cell when restarting at temperatures below freezing, while maintaining the electrolyte in a wet condition. Simply directing dry air to remove residual moisture directly to the fuel cell, and thereby changing the humidity level in a fuel cell system to prevent freezing, as taught by Suzuki et al., cannot achieve this objective.

Claim 6 requires that the target humidity is set to be higher when the wet condition of the fuel cells is drier than a predetermined wet region than when the wet condition of the fuel cells is wetter than the predetermined region. This object of the present invention is achieved by controlling the moisture-adjusted gas generating mechanism such that the humidity of the moisture-adjusted gas matches the target humidity set according to this criterion.

None of Mathias, Busenbender, or Suzuki et al. suggests setting the target humidity to be higher when the wet condition of the fuel cells is drier than a predetermined wet region than when the wet condition of the fuel cells is wetter than the predetermined region, as required by claim 6.

Claims 3, 4, 8, 16, and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Mathias et al., Busenbender, and Suzuki et al., and further in view of Nonobe (US

6,524,733). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The rejection of claims 3, 4, 16, and 17 is moot, as these claims have been canceled. As regards claim 8, the combination of Mathias et al., Busenbender, Suzuki et al., and Nonobe do not suggest the claimed fuel cell system because Nonobe does not cure the deficiencies of Mathias et al., Busenbender, and Suzuki et al. Nonobe does not suggest setting the target humidity to be higher when the wet condition of the fuel cells is drier than a predetermined wet region than when the wet condition of the fuel cells is wetter than the predetermined region, as required by claim 6.

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Mathias et al., Busenbender, and Suzuki et al., and further in view of Ban et al. (US 6,350,536).

Claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over Mathias et al., Busenbender, and Suzuki et al., and further in view of Ban et al. and Gilbert (US 2003/0170506).

Claim 13 was rejected under 35 U.S.C. §103(a) as being unpatentable over Mathias et al., Busenbender, and Suzuki et al., and further in view of Walsh (US 2002/0182466).

Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over Mathias et al. and further in view of Nonobe and Ban et al.

Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over Mathias et al. in view of Nonobe and Ban et al.

These rejections are traversed, and reconsideration and withdrawal thereof respectfully requested.

The rejections of claims 5, 10, and 13-15 are moot, as these claims have been canceled.

The dependent claims are allowable for at least the same reasons as claim 6 and further distinguish the claimed fuel cell system.

In view of the above amendments and remarks, Applicants submit that this amendment should be entered, the application allowed, and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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